SUMMARY OF INTERVIEW

Identification of Claims Discussed

Claims 1 and 12.

Identification of Prior Art Discussed

U.S. Patent Nos. 6,228,773 and 6,273,956 to Cox ("Cox'773" and "Cox'956"), Japanese Patent No. 08127861 to Yasumasa ("Yasumasa") and U.S. Patent No. 4,612,207 to Jansen ("Jansen").

Proposed Amendments

No amendments were discussed.

Principle Arguments and Other Matters

Applicant's representative, Mr. Sanjivpal S. Gill, argued that because Cox '773 and Cox '956 were incorporated by reference in the application as originally filed (paragraph 0003), the amendments to the Specification set forth in f the Amendment filed September 23, 2005 do not constitute new matter because they merely added disclosure contained within the Cox patents. Mr. Gill similarly argued that the §112 rejections were improper in view of the amendments to the Specification and the incorporation by reference of the two Cox patents.

With respect to the §102 rejections, Mr. Gill argued that Cox '773 and Cox '956 do not anticipate present Claims 1 and 12 because neither Cox patent discloses or claims (1) a throttle valve simultaneously downstream of two chambers and upstream of a pump, the pump being configured to perform both pumpdown and process pumping of the two processing chambers and the throttle valve configured to regulate the pressure in both of the chambers, as recited in Claim 1; or (2) a computer configured to repeatedly synchronously and alternately control power source application, robot movement, chamber processing, and a pump, the computer configured to control the pump and the robot to effect pump-down and subsequent process pumping of one of two chambers during simultaneous venting, workpiece removal and workpiece reloading of the other of the two chambers, such that said pump-down pumping of one of the chambers and said venting of the other of the chambers begin at substantially the same time, and the computer being

configured to open the pump to fluid communication with only one of the chambers at a time, as recited in Claim 12.

With respect to the §103 rejections, Mr. Gill argued that the combination of Yasumasa and Jansen does not meet the language of Claim 1 (and dependent claims thereof) because neither Yasumasa nor Jansen suggests or provides any motivation for a single throttle valve simultaneously downstream of two processing chambers and upstream of a pump. It was argued that Yasumasa teaches multiple pairs of chambers and throttle valves, and Jansen merely teaches a single chamber-valve pair. It was further argued that skilled artisans would have recognized Yasumasa as already comprising a multiplication of Jansen's chamber-valve pair, and that Jansen would therefore not have motivated any change to the Yasumasa apparatus. Mr. Gill also argued that the combination of Cox '773 and Khan does not meet the language of present Claim 12 (and dependent claims thereof) because neither reference teaches or suggests the functional limitations of the computer in Claim 12.

Results of the Interview

The Examiner indicated that he would further consider the allowability of the claims based on the Applicant's arguments submitted herein.

REMARKS

Reconsideration and allowance of this application, as amended, is respectfully requested. Claims 1, 3-12 and 18-25 are pending in this application.

Applicant submits that this application, as amended, is in condition for allowance and such action is earnestly requested. Each of the Examiner's reasons for rejection is addressed below.

Objection to the Drawings

The drawings were objected to under 37 CFR 1.83(a) for not showing the following features recited in the claims: downstream plasma reactor (original Claim 10) and in-chamber plasma reactor (original Claim 11).

Applicant notes that, in response to the June 23, 2005 Office Action (amendment filed September 26, 2005), original Claims 10 and 11 were amended to clarify the "downstream plasma reactor" and "in-chamber plasma reactor." Claim 10 was amended to recite that "the processing-chambers are each downstream of a plasma applicator", and Claim 11 was amended to recite an "in situ plasma reactor." The amendments to Claims 10 and 11 were accompanied by amendments to the drawings—Figs. 2A and 2B were submitted as replacements of original Fig. 2. Fig. 2A includes processing-chambers 60,62, each downstream of a plasma applicator 81,82, and Fig. 2B includes an in situ plasma reactor (dotted lines from switch 83 to processing chambers 60 and 62) in each processing chamber 60,62. Additionally, the Specification was amended to directly address the features illustrated in new Figs. 2A and 2B. As an example, paragraph [0017] of the Specification was amended to recite that "the plasma source includes an individual remote plasma applicator associated with each of the chambers, such as a first plasma applicator 81 of a first chamber 60 and a second plasma applicator 82 of a second chamber 62 (Figure 2A). In an alternative embodiment, the plasma source is in situ (Figure 2B), wherein each chamber 60,62 is an in situ plasma reactor." Accordingly, this rejection was suitably addressed in the prior Amendment by amending the claims and Specification in a manner so that the claims are clearly supported by the Specification and the claim elements in question are shown in the drawings.

Nevertheless, to further address the Examiner's concerns, the Specification is presently amended to provide clearer support for the "plasma applicator" recited in present Claim 10. Paragraph [0017] of the Specification, as amended, recites that "in the illustrated embodiment, the chambers 60,62 are each downstream of a plasma applicator 81,82." This amendment does not introduce any new matter because this subject matter was incorporated by reference from the Cox patents.

Thus, all features recited in the claims appear in the drawings and are described in the Specification. Accordingly, Applicant respectfully requests that the objection to the drawings be withdrawn.

Objection to the Specification

The Specification was objected to for introducing "new matter" into paragraphs [0014], [0016], [0017], [0018], [0020], [0025], [0028] and [0029] of the disclosure. The Examiner asserts that the added material is not supported by the original disclosure. Applicant respectfully disagrees with this objection.

These amendments to the Specification were made in order to address the Examiner's objection to the drawings under 37 C.F.R. § 1.83(a), set forth in the Office Action mailed on June 23, 2005. The Examiner objected on the basis that the drawings did not show every feature of the invention specified in the claims. Specifically, the Examiner found that the original drawings did not show a "remote plasma applicator," "common power source," "robot," "first plasma applicator," "second plasma applicator," "radio frequency power source," "downstream plasma reactor," "in-chamber plasma reactor," and "computer." In response, Applicant replaced Figure 2 with new Figures 2A and 2B, which show these claimed features. In addition, Applicant amended the Specification to address the newly presented subject matter of new Figures 2A and 2B.

This newly inserted subject matter of Figures 2A and 2B and these amendments to the Specification did not constitute new matter because this subject matter is disclosed by Cox '773 and Cox '956, which were incorporated by reference by the present application as originally filed (paragraph 0003). For a better understanding of the incorporation by reference rules, the

Examiner is kindly directed to 37 C.F.R. § 1.57 and M.P.E.P. 608.01(p), some excerpts of which are set forth below.

"An application as filed must be complete in itself in order to comply with 35 U.S.C. § 112. Material nevertheless may be incorporated by reference, *Ex parte Schwarze*, 151 USPQ 426 (Bd. App. 1966). An application for a patent when filed may incorporate "essential material" by reference to ... a U.S. patent..." M.P.E.P. 608.01(p)(I)(A).

"Essential material" includes material that is necessary to provide a written description of the claimed invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, as required by the first paragraph of 35 U.S.C. § 112. 37 C.F.R. § 1.57(c)(1). *Also see* M.P.E.P. 608.01(p)(I)(A). "'Essential material' may be incorporated by reference, but only by way of an incorporation by reference to a U.S. patent ... which ... does not itself incorporate such essential material by reference." 37 C.F.R. § 1.57(c). *Also see* M.P.E.P. 608.01(p)(I).

"Any insertion of material incorporated by reference into the specification or drawings of an application must be by way of an amendment to the specification or drawings. Such an amendment must be accompanied by a statement that the material being inserted is the material previously incorporated by reference and that the amendment contains no new matter." 37 C.F.R. § 1.57(f). *Also see* M.P.E.P. 608.01(p)(I).

All amendments to the Specification are fully supported by the present Application as originally filed and do not constitute new matter, due in part to the incorporation by reference of Cox '773 and Cox '956 at paragraph [0003] of the Specification: "Examples of such dual chamber processing systems are disclosed in U.S. Pat. No. 6,228,773, issued May 8, 2001 to Cox, and U.S. Pat. No. 6,273,956, issued Aug. 14, 2001, both of which are incorporated herein by reference and made part of the present disclosure." For example, Figure 15 of Cox '956 shows a radio frequency or other common power source 22, a first plasma applicator 26, a second plasma applicator 28, a switch 24 and a process gas source 20. Col. 8, lines 25-30 and 39-42; col. 10, lines 40-52. As another example, Figure 6 of Cox '956 shows a robot 15, which is configured to load and unload wafers from the chambers 30,32. Col. 10, lines 51-52; col. 9, lines 1-30. As yet another example, Figure 7 of Cox '956 shows a computer. Col. 8, lines 59-61.

Thus, the amendments to the Specification are not new matter because all amendments are fully supported by the present application as originally filed, due in part to the aforementioned incorporation by reference of the two Cox patents. Notwithstanding whether the inserted subject matter is essential material, Applicant has chosen to bodily incorporate this material into the present Specification to minimize any questions of claim support. Accordingly, Applicant respectfully requests that the objection to the Specification be withdrawn.

Section 112 Rejections

Claims 1, 3-12 and 18-25 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. The Examiner asserts that the claims contain subject matter which was not described in the Specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. The Examiner asserts that the claimed subject matter is not supported by the Specification as originally filed. Office Action at page 3.

During the Examiner interview, the Examiner appeared to agree that this rejection was made without recognition that the claimed subject matter is partly supported by Cox '773 and Cox '956. Applicant contends that, in view of the incorporation by reference of Cox '773 and Cox '956 (see above), the amended claims are fully supported by the Specification and in compliance with the written description requirement. Consequently, Applicant respectfully requests that the §112 rejections be withdrawn.

Section 102 Rejections

Claims 1, 3-12 and 18-25 are rejected under 35 U.S.C. § 102(g) and possibly (f) as being directed to the same invention as that of Claims 1-28 of Cox'773 or Cox'956. Applicant respectfully disagrees with these rejections.

Claims 1 and 3-11

Claim 1 is not directed to the same invention as that of either Cox '773 or Cox '956 (collectively "Cox") because Cox does not teach or claim a single pump in fluid communication with two processing chambers and a throttle valve simultaneously downstream of both chambers

and upstream of the pump. Cox's single pump embodiment (Figures 14 and 15) teaches using separate throttle valves for each processing chamber. Figure 14 does not show any throttle valves, and Figure 15 includes throttle valves 36 and 37 for the separate processing chambers. As stated by Cox, "FIG. 15 is a more detailed schematic flow diagram of a dual downstream reactor version of the present invention using a single vacuum pump and ***dual throttle valves***." Cox '956, col. 7, lines 15-17 (emphasis added); *see also Id.*, col. 10, lines 48-50. None of Cox's claims recites, either identically or by other similar language, a single pump in fluid communication with two processing chambers and a throttle valve simultaneiously downstream of both chambers and upstream of the pump. Accordingly, Applicant respectfully requests that the §102 rejection of Claim 1 be withdrawn.

Claims 3-11 recite additional features of advantage and utility. Moreover, these claims are allowable because they depend from and therefore include all of the limitations of Claim 1. Cox does not teach all of the limitations of Claim 1, let alone the unique combinations of limitations of Claims 3-11. Accordingly, Applicant respectfully requests that the §102 rejections of Claims 3-11 also be withdrawn.

Claims 12 and 18-25

Claim 12 recites, *inter alia*, a first processing chamber, a second processing chamber, a pump and a computer, the computer "configured to repeatedly synchronously and alternately control the power source application, the robot movement, the chamber processing, and the pump, the computer configured to control the pump and the robot to effect pump-down and subsequent process pumping of one of the chambers during simultaneous venting, workpiece removal and workpiece reloading of the other of the chambers, such that said pump-down pumping of one of the chambers and said venting of the other of the chambers begin at substantially the same time, and the computer being configured to open the pump to fluid communication with only one of the chambers at a time."

Applicant notes that functional language even in an apparatus claim must be evaluated and considered, just like any other limitation of the claims, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used. M.P.E.P. § 2173.05(g); *In re Venezia*, 189 U.S.P.Q. 149 (C.C.P.A. 1976) A device configured (or programmed) to produce

a particular function limits the structure of that device, and one skilled in the art would recognize this as requiring physical attributes of that device. *In re Bernhart*, 417 F.2d 1395, 163 U.S.P.Q. 611 (C.C.P.A. 1969). By reciting a computer configured to perform the tasks articulated in Claim 12, Applicant has distinctly (and positively) defined structural features which must be given patentable weight by the Examiner.

Claim 12 is not directed to the same invention as Cox because Cox does not teach a computer configured to perform the functions recited in Claim 12, including to control the pump and a robot to effect pump-down and subsequent process pumping of one of the chambers during simultaneous venting, workpiece removal and workpiece reloading of the other of the chambers, such that said pump-down pumping of one of the chambers and said venting of the other of the chambers begin at substantially the same time. For example,Cox begins a sequence of venting, processed wafer unload, unprocessed wafer load, and pump-down of a first chamber at the same time that wafer processing begins in a second chamber. Cox '956, col. 8, lines 32-37. After pump-down pumping is completed in the first chamber and processing is completed in the second chamber, the chamber sequences are switched. As such, the pump-down pumping of the first chamber begins well before venting begins in the second chamber. Thus, Cox does not teach or claim a system in which pump-down pumping of one chamber begins at substantially the same time as venting of the other chamber. Accordingly, Applicant respectfully requests that the §102 rejection of Claim 12 be withdrawn.

Claims 18-25 recite additional features of advantage and utility. Moreover, these claims are allowable because they depend from and therefore include all of the limitations of Claim 12. Cox does not teach all of the limitations of Claim 12, let alone the unique combinations of limitations of Claims 18-25. Accordingly, Applicant respectfully requests that the §102 rejections of Claims 18-25 also be withdrawn.

Double Patenting Rejections

Claims 1, 3-12 and 18-25 are rejected under the judicially created doctrine of obviousness-type double patenting for claiming the same invention as Claims 1-28 of Cox '773 and Cox '956. Regarding present Claim 1, the Examiner asserts that Claim 14 of both Cox '773 and Cox '956 teaches a throttle valve configured to regulate a pressure. Regarding present Claim

12, the Examiner asserts that although Cox '773 and Cox '956 do not claim "the added claim 12 limitation of 'the computer configured to control the pump...', it would have been obvious to one of ordinary skill in the art at the time of the invention was made to 'program' Cox's computer as taught by Cox." The Examiner asserts that the motivation to program the computer of Cox '773 and Cox '956 is for process automation and optimization. Applicant respectfully disagrees with the double patenting rejections.

According to M.P.E.P. § 804(II)(B)(1), "any obviousness-type double patenting rejection should make clear:

(A) The differences between the inventions defined by the conflicting claims – a claim in the patent compared to a claim in the application; and

(B) The reasons why a person of ordinary skill in the art would conclude that the invention defined in the claim in issue is an obvious variation of the invention defined in a claim in the patent."

As discussed in M.P.E.P. § 804(II)(B)(1), a determination of obviousness-type double patenting should be made based on the following factual inquiries:

(A) Determine the scope and content of a patent claim and the prior art relative to a claim in the application at issue;

(B) Determine the differences between the scope and content of the patent claim and the prior art as determined in (A) and the claim in the application at issue;

(C) Determine the level of ordinary skill in the pertinent art; and

(D) Evaluate any objective indicia of nonobviousness.

Applicant notes that the Examiner does not articulate the differences between the inventions defined by present Claims 1, 3-12 and 18-25 and those of Cox, or the reasons why a person of ordinary skill in the art would conclude that the inventions defined in the present claims are obvious variations of the inventions defined in the claims of Cox. Accordingly, the rejections are deficient on this basis alone.

The scope and content of present Claims 1 and 3-11 are different from those of Claims 1-28 of Cox '773 and Cox '956

Present Claim 1 recites "a single pump in fluid communication with the two chambers, and a throttle valve simultaneously downstream of both chambers and upstream of the pump, the pump being configured to perform both pumpdown and process pumping of the two chambers and the throttle valve configured to regulate the pressure in both of the chambers."

Of Claims 1-28 of Cox '773 and Cox '956, only Claim 25 (which depends from Claim 12) of Cox '773 and Claim 14 (which depends from Claim 1) of Cox '956 recite a throttle valve. Claim 25 of Cox '773 recites a method of continuously processing a plurality of workpieces, comprising the steps of "operating a dedicated chamber pump-down vacuum pump while bypassing a throttle valve during chamber pump-down, and operating a dedicated chamber process gas vacuum pump coupled to the throttle valve during plasma treatment of a wafer for stabilizing a chamber operating pressure." Claim 14 of Cox '956 recites a dual chamber apparatus for continuously processing a plurality of workpieces, comprising "a dedicated chamber process gas vacuum pump coupled to a throttle valve during processing of a workpiece for stabilizing a chamber operating pressure, and a dedicated chamber pump-down vacuum pump bypassing the throttle valve during chamber pump-down."

The scope and content of present Claim 1 are clearly very different from those of Claim 25 of Cox '773 and Claim 14 of Cox '956. Present Claim 1 is concerned with a ***single pump*** that performs both pumpdown and process pumping of two chambers. In contrast to the presently claimed apparatus, Claim 25 of Cox '773 and Claim 14 of Cox '956 are concerned with the tasks of performing pump-down pumping and process pumping (or plasma treatment) using separate vacuum pumps for each task. Also, Claim 1 recites a throttle valve that is simultaneously downstream of both chambers and upstream of the pump. None of Cox's claims include this limitation. Accordingly, Applicant submits that present Claims 1 and 3-11 are patentably distinct from Claims 1-28 of Cox '773 and Claims 1-28 of Cox '956, and respectfully requests that the double patenting rejections of these claims be withdrawn.

The scope and content of present Claims 12 and 18-25 are different from those of Claims 1-28 of Cox '773 and Cox '956

Present Claim 12 recites a computer "configured to repeatedly synchronously and alternately control the power source application, the robot movement, the chamber processing,

and the pump, the computer configured to control the pump and the robot to effect pump-down and subsequent process pumping of one of the chambers during simultaneous venting, workpiece removal and workpiece reloading of the other of the chambers, such that said pump-down pumping of one of the chambers and said venting of the other of the chambers begin at substantially the same time, and the computer being configured to open the pump to fluid communication with only one of the chambers at a time." Applicant notes that *In re Bernhart* is highly relevant here for the principle that a device configured to produce a particular function limits the structure of that device, and one skilled in the art would recognize this as requiring physical attributes of that device.

Claims 1-28 of Cox '773 do not recite a computer, let alone a computer with the functional limitations of present Claim 12. As the Claims of Cox '773 do not recite a computer configured with the limitations of present Claim 12, Applicant submits that Claims 1-28 of Cox '773 lack the scope and content of present Claim 12. Therefore, present Claims 12 and 18-25 are patentably distinct from Claims 1-28 of Cox '773. Applicant respectfully requests that the double patenting rejections of these claims based on Cox '773 be withdrawn.

Of Claims 1-28 of Cox '956, only Claims 1, 7, 9 10 and 13 recite a computer. However, Claims 1-28 of Cox '956 do not include the functional limitations of the computer recited in present Claim 12. Claim 1 of Cox '956 recites a dual chamber apparatus comprising a computer "for repeatedly synchronously alternately controlling the power source application, the robot movement and the chamber processing." Dependent Claim 7 of Cox '956 adds the limitation that "the computer is programmed such that chamber overhead time substantially does not overlap with the chamber processing time." Dependent Claim 9 of Cox '956 adds the limitation that "the computer is programmed to have a robot wait time of substantially zero between loading an unprocessed workpiece in one of the chambers and unloading a processed workpiece in the other of the chambers." Dependent Claim 10 of Cox '956 adds the limitation that "the computer is programmed to have a robot wait time of near zero between loading an unprocessed workpiece in one of the chambers and unloading a processed workpiece in the other of the chambers." Dependent Claim 13 of Cox '956 adds the limitation that "the computer is programmed such that, alternately and synchronously, all of the odd numbered workpieces are

processed in the second chamber and all of the even numbered workpieces are processed in the first chamber, but all workpieces are returned to their original slots in the single cassette."

The scope and content of present Claim 12 are clearly very different from those of Claims 1, 7, 9, 10 and 13 of Cox '956. For example, present Claim 12 recites that the computer is configured to control the pump and the robot such that pump-down pumping of one of the chambers and venting of the other of the chambers begin at substantially the same time. In contrast, none of Claims 1, 7, 9, 10 and 13 (nor any of the remaining claims of Cox '956) positively recites these limitations of present Claims 12 and 18-25. Claims 1, 7, 9, 10 and 13 of Cox '956 are not concerned with beginning pump-down pumping of chamber and venting of another chamber at substantially the same time. Therefore, Applicant submits that present Claims 12 and 18-25 are patentably distinct from Claims 1-28 of Cox '956, and respectfully requests that the double patenting rejections of these claims be withdrawn.

Section 103 Rejections

Claims 1 and 3-11 are rejected under 35 U.S.C. §103(a) as being unpatentable over Yasumasa in view of Jansen. The Examiner asserts that Yasumasa teaches all of the limitations of Claim 1, with the exception of a throttle valve simultaneously downstream of both chambers of Yasumasa and upstream of Yasumasa's pump. However, the Examiner has found that Jansen teaches a wafer processing apparatus including a throttle valve downstream of Jansen's chamber and upstream of Jansen's pump. According to the Examiner, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add Jansen's throttle valve to Yasumasa's apparatus. The Examiner asserts that the motivation for adding Jansen's throttle valve to Yasumasa's apparatus is "for controlling processing pressure to desired values as taught by Jansen." Office Action at page 8.

Claims 12 and 18-25 are rejected under 35 U.S.C. §103(a) as being unpatentable over Cox '773 in view of U.S. Patent No. 6,802,933 to Khan ("Khan"). The Examiner has found that Cox '773 teaches all of the limitations of Claim 12, with the exception of a computer configured to control the pump and the robot to effect pump-down and subsequent process pumping of one of the chambers during simultaneous venting, workpiece removal and workpiece reloading of the other of the chambers, such that said pump-down pumping of one of the chambers and said

venting of the other of the chambers begin at substantially the same time, and the computer being configured to open the pump to fluid communication with only one of the chambers at a time. The Examiner argues that the "claim limitation of 'to effect pump-down and subsequent process pumping...with only one of the chambers at a time' are claim requirements of intended use of the pending apparatus claims." The Examiner asserts that "in apparatus claims, intended use must result in a structure difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim." Office Action at page 11. In overcoming the deficiencies of Cox '773, the Examiner has found that Khan teaches a computer controller for process control of "plural chambers", "robot" and "power." The Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time the invention was made to add Khan's computer controller for automating Cox '773's process components. Office Action at page 12.

The asserted combination of Yasumasa and Jansen does not meet the language of Claims 1 and 3-11

Applicant respectfully disagrees with the §103(a) rejection of Claim 1. The asserted combination of Yasumasa and Jansen at most yields two processing chambers (any two of 3A-3C), with each processing chamber having one throttle valve downstream of that chamber and upstream of a pump. Neither Jansen nor Yasumasa suggests or provides any motivation for providing a single throttle valve simultaneously downstream of two processing chambers and upstream of a pump, as recited in present Claim 1.

In order to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, teaching or suggestion of the desirability of making the specific combination made by the Applicant. *In re Kotzab*, 54 USPQ2d 1308 (Fed. Cir. 2000). Also, the prior art reference (or references when combined) must teach or suggest all the claim limitations. M.P.E.P. § 706.02(j); *In re Vaeck*, 947 F.2d 488, 493 (Fed. Cir. 1991). "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed

invention to have been obvious in light of the teachings of the references." *Ex parte Clapp*, 227 U.S.P.Q. 973, 973 (Bd. Pat. App. & Inter. 1985); M.P.E.P. § 706.02(j).

Yasumasa teaches multiple pairs of processing chambers and throttle valves, and Jansen merely teaches one pair of a chamber and throttle valve. Skilled artisans would have recognized Yasumasa as already including a multiple of Jansen's chamber-valve pair, arranged in parallel. Therefore, Jansen would not have motivated any change whatsoever to the Yasumasa apparatus. Nothing in Yasumasa or Jansen suggests providing a single throttle valve simultaneously downstream of two processing chambers and upstream of a pump.

In finding it obvious to reduce the number of throttle valves to yield a system including a single throttle valve simultaneously downstream of two processing chambers and upstream of a pump, the Examiner appears to be impermissibly using hindsight reconstruction. "It is impermissible, however, simply to engage in a **hindsight** reconstruction of the claimed invention, using the applicant's structure as a template and selecting elements from references to fill the gaps." (emphasis added). *In re Gorman*, 18 U.S.P.Q.2d 1885, 1888, 933 F.2d 982 (Fed. Cir. 1991). Thus, Applicant respectfully submits that the asserted combination of Yasumasa and Jansen does not include all of the limitations of Claim 1, and Applicant respectfully requests that the §103(a) rejection of Claim 1 be withdrawn.

Claims 3-11 recite additional features of advantage and utility. Moreover, these claims are allowable because they depend from and therefore include all of the limitations of Claim 1. The asserted combination of Yasumasa and Jansen does not teach or include all of the limitations of Claim 1, let alone the unique combinations of limitations of Claims 3-11. Accordingly, Applicant respectfully requests that the §103(a) rejections of Claims 3-11 also be withdrawn.

Claims 12 and 18-25 are allowable over the asserted combination of Cox '773 and Khan

Applicant respectfully disagrees with the §103(a) rejections of Claims 12 and 18-25. Applicant will address the Examiner's assertion that the computer configured with the limitations of Claim 12 (and dependent claims thereof) is a matter of intended use. Applicant will argue that the Examiner has improperly applied various court cases in support of its argument. Applicant will further argue that a computer with the limitations recited in present Claims 12 and 18-25 is not a matter of intended use, but rather a positive recitation of functional features (or limitations)

that, in view of Bernhart, must be given patentable weight. The Examiner's contention (made during the telephonic interview of February 1, 2006) that the apparatus of Cox'773 may be inherently capable of performing the functions of the computer of Applicant's Claim 12 will be addressed.

In re Walter

The Examiner has cited *In re Walter*, 618 F.2d 758, 205 U.S.P.Q. 397 (CCPA 1980), in asserting that claim language that simply specifies an intended use or field of use for the invention generally will not limit the scope of the invention. Applicant respectfully submits that *In re Walter* has been improperly applied. *Walter* involved method claims for correlating a series of sample signals for geophone stations with respect to a series of reference signals. The claims' preambles recited an environment in which the methods operate, but the actual claimed methods only involved mathematical exercises. The court found that the claims themselves were not drawn to methods of or apparatus for seismic prospecting, but were merely drawn to improved mathematical methods for interpreting the results of seismic prospecting. As such, the court found that the claims were not drawn to statutory subject matter, in violation of 35 U.S.C. § 101. The court rejected the applicant's argument that the preambles recited a structural limitation, finding that the preambles merely related the claimed invention to the art of seismic prospecting.

In contrast, present Claim 12 positively recites a computer configured to perform particular tasks, which, in view of *In re Bernhart*, must be given patentable weight. Thus, the functional limitations of the computer of Claim 12 (and dependent claims thereof) are not a matter of intended use, but rather functional limitations that structurally limit the claim.

In re Casey and *In re* Otto

The Examiner has cited *In re Casey*, 152 U.S.P.Q. 235 (CCPA 1967), and *In re Otto*, 136 U.S.P.Q. 458 (CCPA 1963), in asserting that if the prior art structure is capable of performing an intended use, it meets the claim. Applicant respectfully submits that these two cases have been improperly applied.

In *Casey*, the applicant claimed a taping machine comprising, *inter alia*, a brush formed with projecting bristles which terminate in free ends to collectively define a surface to which

adhesive tape will detachably adhere. The court found that the claims were not patentable over prior art that disclosed the apparatus without adhesive tape. It was found that the claims did not positively recite the presence of any adhesive tape, but rather only a surface to which adhesive tape will detachably adhere.

In *Otto*, the applicant claimed a core member for hair curlers comprising, *inter alia*, a body of elastically resilient foam material, the hair being wound directly on said body. The applicant also claimed a method of making such a core member. The court found the claims to be obvious over a combination of prior art apparatuses. In doing so, the court found that the apparatus claims did not positively include hair wound directly on the body of elastically resilient foam material, but that the recitation of "the hair being wound directly on said body" was an intended use that does not impart any structural limitation to the claimed apparatus. "First of all it should be remembered that the claims are directed to a particular device and a method of making that device, not to a method of curling hair wherein this particular device is used. It seems appellants are endeavoring to predicate patentability upon a certain procedure for curling hair using this device and involving a number of steps in the process." *In re Otto*, 136 U.S.P.Q. 458, 459.

The disputed claims of *Casey* and *Otto* did not positively recite structure upon which patentability could be predicated. In contrast, Applicant in present Claim 12 has positively recited a computer with particular functional limitations, which, in view of *In re Bernhart*, must be given patentable weight. Recall the *Bernhart* held that a device configured or programmed to produce a particular function limits the structure of that device, and one skilled in the art would recognize this as requiring physical attributes of that device. *In re Bernhart*, 417 F.2d 1395, 163 U.S.P.Q. 611 (C.C.P.A. 1969). Consequently, the limitations of the computer in Claim 12 (and dependent claims thereof) are not a matter of intended use, but rather functional limitations that structurally limit the claim. Accordingly, Applicant respectfully requests that these limitations be given patentable weight, and submits that such limitations given such weight patentably distinguish over the asserted combination of Cox '773 and Khan, since Khan likewise does not disclose these functional limitations of the computer.

Cox'773 is not inherently capable of meeting the language of Claim 12

During the telephonic interview of February 1, 2006, the Examiner asserted that the apparatus of Cox '773 may be inherently capable of meeting the limitations of the computer of present Claim 12. Applicant respectfully disagrees with the Examiner.

The fact that a certain result or characteristic is capable of or may occur in the prior art is not sufficient to establish the inherency of that result or characteristic. M.P.E.P. § 2112, citing *In re Rijckaert*, 9 F.3d 1531, 1534, 28 U.S.P.Q.2d. 1955 (Fed. Cir. 1993). Further, inherency may not be established by probabilities or possibilities. *In re Robertson*, 169 F.3d 743, 745, 49 U.S.P.Q.2d. 1949 (Fed. Cir. 1999). The mere fact that Cox '773 may be inherently capable of meeting the language of Claim 12 (and dependent claims thereof) is not sufficient. In relying upon the theory of inherency, the Examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. *Ex parte Levy*, 17 U.S.P.Q.2d. 1461, 1464 (Bd. Pat. App & Inter. 1990).

In this case, nothing in Cox '773 even remotely suggests the limitations of the computer in Claim 12. Claim 12 recites "a computer configured to repeatedly synchronously and alternately control the power source application, the robot movement, the chamber processing, and the pump, the computer configured to control the pump and the robot to effect pump-down and subsequent process pumping of one of the chambers during simultaneous venting, workpiece removal and workpiece reloading of the other of the chambers, such that said pump-down pumping of one of the chambers and said venting of the other of the chambers begin at substantially the same time, and the computer being configured to open the pump to fluid communication with only one of the chambers at a time." For example, Cox does not come close to disclosing a computer configured to control a pump and a robot such that pump-down pumping of one chamber begins at substantially the same time as venting of another chamber.

The asserted combination of Cox '773 and Khan does not meet the language of Claims 12 and 18-25

Applicant reiterates the relevancy of *Bernhart* for the principle that a device configured to produce a particular function limits the structure of that device, and one skilled in the art would

recognize this as requiring physical attributes of that device. Applicant also reiterates the relevancy of *Venezia*, which holds that functional language, even in an apparatus claim, must be evaluated and considered just like any other claim limitation, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used.

Neither Khan nor Cox '773 teaches or suggests a computer configured to control a pump and a robot to effect pump-down and subsequent process pumping of one of the chambers during simultaneous venting, workpiece removal and workpiece reloading of the other of the chambers, such that said pump-down pumping of one of the chambers and said venting of the other of the chambers begin at substantially the same time. In Cox '773, pump-down pumping of one chamber precedes venting of the other. *See* Cox '773, Figure 22. Accordingly, Applicant respectfully requests that the §103(a) rejection of Claim 12 be withdrawn.

Claims 18-25 recite additional features of advantage and utility. Moreover, these claims are allowable over the combination of Cox '773 and Khan because they depend from and therefore include all of the limitations of Claim 12. The combination of Cox '773 and Khan does not include all of the limitations of Claim 12, let alone the unique combinations of limitations of Claims 18-25. Accordingly, Applicant respectfully requests that the §103(a) rejections of Claims 18-25 also be withdrawn.

CONCLUSION

In view of the foregoing amendments and remarks, Applicant respectfully submits that this application is in condition for allowance. If there is any further hindrance to allowance of the pending claims, the Examiner is invited to contact the undersigned.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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Dated: 2/7/06

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